

1980

MARK TWAIN NATIONAL WILDLIFE REFUGE
Calhoun District

ANNUAL NARRATIVE REPORT
Calendar Year 1980

NATIONAL WILDLIFE REFUGE SYSTEM
Fish and Wildlife Service
U.S. DEPARTMENT OF THE INTERIOR

Personnel

<u>Name</u>	<u>Title & Grade</u>			
George W. Peyton	Refuge Manager GS-11		PFT	
Eugene A. Simon	Maintenance Neck. #3-9		PFT	
Lucille M. Douglas	Clerk-Typist GS-2	07-13-80	PFT	
Robert W. Nance	Tractor Operator WG-3	06-01-80	TFT	09-26-80

YACC

Robert W. Nance	Enrollee	10-14-79	06-01-80
	Converted to TFT Tractor Operator		
Lucille M. Douglas	Enrollee	12-09-79	07-13-80
	Converted to PFT Clerk-Typist		

Review and Approvals

<u>George W. Peyton</u>	<u>1/30/81</u>	<u>Donald Young</u>	<u>2/24/81</u>
Submitted by	Date	Area Office Review	Date

_____	Regional Office Review	Date
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1980

Batchtown

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Batchtown

I. General

A. Introduction

Batchtown is in Calhoun County located on the Mississippi River 5 miles above lock and dam # 25.

Batchtown is made up of 2,248.6 acres of Mississippi River bottomland. All lands are General Plan Lands owned by the U.S. Army Corps of Engineers and administered as part of the refuge system through a 1963 Cooperative Agreement between the Corps and the U.S. Fish and Wildlife Service.

B. Climatic and Habitat Conditions

Climatic conditions are the same as those listed under Calhoun.

Conditions in upper and lower pools were ideal for waterfowl food, producing moist soil plants since the Corp of Engineers maintained low water levels on navigation pool # 25. Production on the cultivated area of Middle Pool was low because of the lack of moisture.

C. Land Acquisition

1. Fee Title

Nothing to report.

2. Easements

Nothing to report.

3. Other

Nothing to report.

D. System Status

1. Objectives

Batchtown serves as an important link for migrating waterfowl along the Mississippi flyway. A peak population of 157,000 ducks and duck use days totaling 6,000,000 has been reached in the past. To accommodate this population, as much wintering

and resting habitat as is economically and biologically possible must be provided. Habitat for the wintering endangered bald eagle must also be provided. Another objective of lesser importance is to provide habitat for the production of wood ducks.

2. Funding

Funds are all listed under Calhoun.

II. Construction and Maintenance

A. Construction and Planning

Nothing to report.

B. Maintenance

Refuge signs were repaired and replaced utilizing new sign faces and constructing new frames.

C. Wildfire

Nothing to report.

III. Habitat Management

A. Cropland

(See Table II) Twelve cooperative farmers farmed 87 acres of corn, 109 acres of soybeans and 5 acres of wheat. As you can tell by the number of farmers compared to the number of acres farmed most of the farm units are small ranging from 1.5 acres to 80 acres.

Six acres of corn were left in the fields as wildlife food. Fifty two acres of standing soybeans were aerially seeded to wheat. Other soil and habitat management practices conducted by the cooperators were: (1) plant 12 acres of food patch mix, (2) plant 5 acres of buck-wheat (3) plant 5 acres of hairy vetch, (4) reduce erosion by maintaining 3 acres of bromegrass, alfalfa and meadow fescue, (5) plant 6 acres of sunflowers and (6) plant 6 acres of grain sorghum which was left for wildlife.

Cooperative farmers harvested, sold and deposited in the # 5092 special account as the refuge share the proceeds from 14.25 acres of soybeans, 1.25 acres of wheat and 17.26 acres of corn. Funds from this source will be applied back to General Plan lands, facilities and equipment used to maintain this land.

Table II.

Batchtown

Cooperator	Corn	Soybeans	Wheat	Cooperator's Share	Refuge Share		MSU Land Improvements and Wildlife Food
					Unharvested	Harvested	
E. Caselton	6	---	---	---	6	---	
E. Caselton	---	52	52 ^{*1}	52 acres of Soybeans	---	---	
E. Caselton	---	---	---	---	---	---	52 acres of wheat aerially seeded for goose browse. 12 acres Food Patch mix. 5 acres Buckwheat. 5 acres Hairy Vetch. 3 acres Bromegrass, alfalfa, Meadow Rescue.
E. Caselton	---	3	---	2.25	---	.75	
Eilerman	10	---	---	7.5	---	2.5	
Goode	---	---	5	3.75	---	1.25	
Hagen	---	3	---	2.25	---	.75	
Johnes	29	---	---	21.75	---	7.25	
Johnes	---	20	---	15	---	5	
Johnes	---	---	---	---	---	---	6 acres of sweet clover sown into corn 6 acres Sunflowers
McKinnon	1.5	---	---	1.12	---	.38	
Mortland	21	---	---	18.75	---	2.25	
Mortland	---	6	---	4.5	---	1.5	
Mortland	---	---	---	---	---	---	6 acres grain Sorghum left for wildlife.
Obst	---	16	---	12	---	4	
Pohlman	6	---	---	4.5	---	1.5	

Table II. Continued

Patchtown Continued

Cooperator	Corn	Soybeans	Wheat	Cooperator's Share	Unharvested	<u>Refuge Share</u>	
						Harvested	MSU Land Improvements and Wildlife Food
Simon	13.5	---	---	10.12	---	3.38	
Whitworth	---	9	---	6.75	---	2.25	
Total	87	109	57	162.24	6	32.76	

*1 52 acres of wheat aerially seeded into standing soybeans.

B. Grasslands

Three acres of bromegrass, alfalfa and meadow fescue were maintained to prevent erosion.

C. Wetlands

A vegetative transect run on the Middle Pool unit showed the vegetation to be very similar to the vegetation found in 1979 but maple and willows are starting to come in and will soon need to be controlled. The most abundant vegetation found was long-bristled smartweed, rice cutgrass, and buttonbush.

Flooding of Middle Pool was started by gravity flow in October. The Corp of Engineers held the Mississippi River level high enough to flood the entire unit by gravity flow.

MSU #1 (50 acres) This unit produced an abundance of wildlife foods but was so thick and tall that waterfowl could not get in to utilize it. To make these foods available to waterfowl the cooperative farmer had to go in and knock it down with a heavy disc. Flooding of the unit was accomplished in October using a Crisafulli pump, pumping from Middle Pool.

D. Forestlands

Nothing to report.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

Nothing to report.

IV. WildlifeA. Endangered and/or Threatened Species

A peak of 10 bald eagles was observed on November 20. They spent a total of 990 use days on the unit. No other endangered species were observed.

B. Migratory Birds

1. Waterfowl

Total duck use was 4,561,910 use days and a peak of 65,970. This shows a use days reduction of 10% from 1979. Mallards accounted for 49% of this use, pintails 22% and American widgeon 13%.

Duck production amounted to 200 mallards 30 blue-winged teal and 530 wood ducks.

Canada goose use amounted to 17,140 use days a decrease of 71% from 1979. Blue/snow goose use was down to 3,245 use days a decrease of 68% from 1979.

Coot use totaled 328,160 a decrease of 75%.

2. Marsh and Water Birds

Great blue herons were the most common marsh and water birds found on the area. Great egrets, little blue herons, double-crested cormorants, green herons, horned grebes and pied-billed grebes were found on the area in lesser numbers.

3. Shorebirds, Gulls, Terns and Allied Species.

Nine species of shorebirds were counted on Patchtown. Some of the most common species observed were American woodcock, common snipe, dowitchers, pectoral sandpipers, yellowlegs and killdeer.

Herring gulls and ring-billed gulls were both observed.

4. Raptors

Marsh hawks, sharp-shinned hawks, red-tailed hawks and American kestrels were all observed in limited numbers.

Barred, screech and great horned owls were all heard throughout the year on the area.

5. Other Migratory Birds

Mourning doves were found in limited numbers on the area especially on refuge roads near the sunflower fields and grain sorghum fields.

C. Mammals and Non-migratory Birds and Others

1. Game Animals

White-tailed deer seemed to be exceptionally plentiful this year. One doe and twin fawns was seen crossing the access road almost everytime someone entered the refuge.

Box squirrels were abundant on the area. From the numbers of sunflower seed heads found under the trees near the sunflower patch, it appears as if squirrels feed heavily on sunflower seeds.

New beaver dams and other signs indicates that the beaver population is high.

More rabbits have been observed than in past years.

No raccoon, opossum or muskrat signs have been observed.

2. Other Mammals

Nothing to report.

3. Resident Birds

The quail population is up with several being observed and heard. A pair of pheasants have been observed several times near the refuge pump station.

4. Other Animal Life

Nothing to report.

V. Interpretation and Recreation

A. Information and Interpretation

1. On - Refuge

Nothing to report.

2. Off - Refuge

Nothing to report.

B. Recreation1. Wildlife Oriented

Warmwater fishermen made 1,035 visits to the refuge and spent 3,275 use days. Some nice strings of bass and crappie were caught in Middle Pool especially when water was being drained into it or from it.

Visitors coming on the area for wildlife/wildlands observations made 1,034 visits and spent 302 activity hours.

2. Non - Wildlife Oriented

Nothing to report.

C. Enforcement

Do to the amount of area on nearby state lands that is open to hunting and private managed hunting areas, no hunting is permitted on any of the unit. No citations were made.

VI. Other ItemsA. Field Investigations

Nothing to report.

B. Cooperative Programs

All cooperative programs were listed under Calhoun.

C. Items of Interest

Listed under Calhoun.

FISH and WILDLIFE SERVICE
Division of Wildlife Refuges

PUBLIC USE REPORT

TR Code	Organization Number										Name				Report Period	
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
0	1	0	3	3	6	2	3	0	0	B	T	C	0	-	-	

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OUTPUT TYPE	LINE CODE										NO. VISITS	ACTIVITY HOURS	NON-STD TOT. HRS
	18	19	20	21	22	23	24	25	26	27-35			
INTERPRETATION													
Wildlife Trails - Nonmotorized													
Self Guided	0	1	1	0	0	0	0	P	S				
Conducted	0	1	2	0	0	0	0	P	C				
Wildlife Tour Routes - Motorized													
Self Guided	0	2	1	0	0	0	0	P	U				
Conducted	0	2	2	0	0	0	0	P	T				
Interpretive Center	0	3	0	0	0	0	0	P	R				
Visitor Contact Station	0	4	0	0	0	0	0	P	C				
Interpretive Exhibits - Demonstra													
Self Guided	0	5	1	0	0	0	0	P	A				
Conducted	0	5	2	0	0	0	0	P	M				
Other On-Refuge Programs	0	6	0	0	0	0	0	P	P				
ENVIRONMENTAL EDUCATION													
Students	1	0	0	0	0	0	0	P	E				
Teachers	1	1	0	0	0	0	0	P	E				
RECREATION-WILDLIFE CONSUMPTIVE													
Hunting Mig. Birds - Waterfowl													
Ducks	2	0	1	0	0	0	0	P	P				
Geese	2	0	0	0	0	0	0	P	U				
Swans	2	0	0	0	0	0	0	P	N				
General Waterfowl	2	0	4	0	0	0	0	P	W				
Hunting Mig. Birds - Other	2	0	0	0	0	0	0	P	N				
CONTROL TOTALS	9	9	2	0	0	0	0	P	2	00	00	00	

Region 3 Station Mark Twain NWR Date Prepared 01/22/81
(Batchtown Division)
Name George W. Peyton, Refuge Manager Form 3-239a
Rev. 12/75

Fish and Wildlife Service
Division of Wildlife Refuges

PUBLIC USE REPORT

TR Code	Organization Number										Name				Report Period	
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
3	0	1	0	3	3	6	2	3	0	0	B	T	C	0	-	

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OUTPUT TYPE	LINE CODE										NO. VISITS	ACTIVITY HOURS	NON-STD TOT. REHS
	18	19	20	21	22	23	24	25	26	27-35			
RECREATION-WILDLIFE CONSUMPTIVE(c't)													
Hunting Resident Game													
Upland Game Birds	2	1	1	0	0	0	0	P	L				
Big Game				(Species Code)									
Deer - Gun	2	1	2					P	H				
Deer - Bow	2	1	3					P	J				
	2	1	4					P	K				
	2	1	4					P	K				
	2	1	4					P	K				
	2	1	4					P	K				
Small Game	2	1	5	0	0	0	0	P	Z				
Other Game	2	1	6	0	0	0	0	P	U				
Trapping	2	1	7	0	0	0	0	U	G				
Fishing													
Warmwater	2	2	1	0	0	0	0	U	W	1035	3275		
Coldwater	2	2	2	0	0	0	0	U	C				
Saltwater	2	2	3	0	0	0	0	U	S				
Clams, Crabs, Oysters, Frogs	2	2	4	0	0	0	0	U	Y				
Other Consumptive Wildl. Rec.	2	3	0	0	0	0	0	U	M	85	160		
RECREATION-WILDLIFE NON-CONSUMPTIVE													
Camping	3	0	0	0	0	0	0	U	H				
Picnicking	3	1	0	0	0	0	0	U	B				
CONTROL TOTALS	9	9	2	0	0	0	0	P	Z	1120	3435	00	

Region 3 Station Mark Twain NWR Date Prepared 01/22/81
(Batchtown Division)
Name George W. Peyton, Refuge Manager Form 3-239b
Rev. 12/75

Fish and Wildlife Service
Division of Wildlife Refuges

PUBLIC USE REPORT

TR Code	Organization Number	Name	Report Period
2 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17			Yr Mo
3 0 1 0 3 3 6 2 3 0 0 B T C 0 - -			

Page 3 of 3

OUTPUT TYPE	LINE CODE										NO. VISITS	OUTPUT UNITS	NON-STD TOT. REU.
	18	19	20	21	22	23	24	25	26	27-35			
RECREATION-WILDLIFE NON-CONSUMPTIVE												Act.Hr.	
Wildlife/Wildlands Observation													
Foot	3	2	1	0	0	0	0	U	E	10	20		
Land Vehicle	3	2	2	0	0	0	0	U	N	1024	282		
Boat	3	2	3	0	0	0	0	U	L				
Other	3	2	4	0	0	0	0	U	P				
Photography	3	3	0	0	0	0	0	U	T				
Field Trials	3	4	0	0	0	0	0	U	X				
RECREATION - NON-WILDLIFE													
Camping	4	0	0	0	0	0	0	R	C				
Picnicking	4	1	0	0	0	0	0	R	P				
Swimming	4	2	0	0	0	0	0	R	S				
Boating	4	3	0	0	0	0	0	R	B				
Waterskiing	4	4	0	0	0	0	0	R	W				
Off Road Vehicling	4	5	0	0	0	0	0	R	V				
Other	4	6	0	0	0	0	0	R	M				
TOTAL VISITS TO REFUGE	0	9	0	0	0	0	0	P	V	2154			
FISH & WILDLIFE INFORMATION											Per.Sers.		
Public Inquiries	5	0	1	0	0	0	0	F	P				
News Releases	5	0	2	0	0	0	0	F	N				
Personal Appearances	5	0	3	0	0	0	0	F	A				
Professional Services	5	0	4	0	0	0	0	F	S				
Exhibits	5	0	5	0	0	0	0	F	E				
CONTROL TOTALS	9	9	2	0	0	0	0	R	Z	3188	302		

Region 3 Station Mark Twain NWR Date Prepared 01/22/81
(Barttown Division)

Name George W. Peyton, Refuge Manager Form 3-239c
Rev. 12/75

1980

Calhoun

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Calhoun

I. General

A. Introduction

The Calhoun Division of the Mark Twain National Wildlife Refuge is an important link in the chain of resting, feeding and wintering areas for birds migrating along the Mississippi Flyway.

Calhoun Division is located three miles above the confluence of the Illinois and Mississippi Rivers in Calhoun County. This is approximately twenty air miles above St. Louis, Missouri. The office for the Calhoun District is located on Calhoun.

Lands are primarily General Plan lands owned by the U.S. Army Corps of Engineers and administered as part of the refuge system through a 1963 Cooperative Agreement between the Corps and the U.S. Fish and Wildlife Service. Calhoun contains 4534 acres of which 852 acres are fee title land. Lands are typical river bottomlands which are subject to flooding with the exception of 56 acres which are above the flood plain. This land was purchased in 1979 as a site for a refuge office complex.

B. Climatic and Habitat Conditions

The year was one of severe drought conditions. Total moisture for the year amounted to 26.28 inches compared to a normal of 36.64 inches. Refuge crops were fortunate in that 11.31 inches of moisture was scattered throughout the growing season. This moisture always fell at the right time to keep the crops from burning up.

Temperatures ranged from a low of -3°F on February 1 to a high of 106°F on July 1. The Illinois River froze over so the Brussels Ferry could not operate on January 30 and was not operated again until February 25.

Moisture conditions were such that crop production and moist soil food production was very low. During the fall of the year the Illinois River water levels were so low that considerable difficulty was encountered in flooding MSU's.

C. Land Acquisition

1. Fee Title

Nothing to report.

2. Easements

Nothing to report.

3. Other

Nothing to report.

D. System Status1. Objectives

Calhoun serves as an important link for migrating waterfowl along the Mississippi Flyway with an objective level of 3,933,000 duck use days and 860,000 goose use days. To reach and maintain these objectives the most economical and biologically sound management practices are to be used. Biological farming and management practices requiring reduced fuel consumption are being studied and put into effect.

Another high priority objective of the district is to provide and protect habitat for wintering endangered American Bald Eagles. Other objectives of lesser importance are (1) the production of wood ducks, (2) provide the public an opportunity to view migratory birds and other wildlife in their natural habitat and (3) provide commercial and sport fishing opportunity for the public.

New facilities are being constructed to educate and guide the public in wildlife oriented recreation so they will not interfere with the primary refuge objectives. As gas becomes harder to get and more costly the area will become more attractive to the 662,000 people who live in St. Louis, Missouri and Alton, Illinois which are within 50 miles. This added use and increase in facilities will call for an increase in the size of the refuge staff which is already strongly taxed.

2. Funding

Funding for the district was not broken down for each of the three divisions. Funding for the district was \$70,200 an increase of 14% over 1979. This increase did not allow for increased costs due to inflation, let alone an increase in the level of refuge management.

The district staff includes two permanent full-time positions (District Manager and Maintenance man), a permanent part-time position (48 hr. per. week clerk-typist), and a summer employee.

Salaries accounted for 70% of the total budget. There was \$7,000 discretionary money left after salaries and other fixed costs were paid.

II. Construction and Maintenance

A. Construction and Planning

Construction of the new office/public use building using BLHP funds was started on February 3. All facilities listed under the headquarters complex were put out to bid, but the bids were so high that only the office/public use building could be constructed. A final inspection was conducted on the office/public use building and it was accepted by the government on December 8, although the refuge staff has not been able to move into this building yet due to problems in getting a well drilled. Total construction costs of this building \$429,000.

A maintenance shop was started on October 8 by a minority contractor. The original contract cost of this building was \$188,261, but now two change orders have been added to bring the total contract sum up to \$197,901.

Still to be completed on this complex are an equipment storage shed, landscaping, movement of fuel tanks, construction of a rocked maintenance area and the completion of a water system for which plans are currently being drawn up.

B. Maintenance

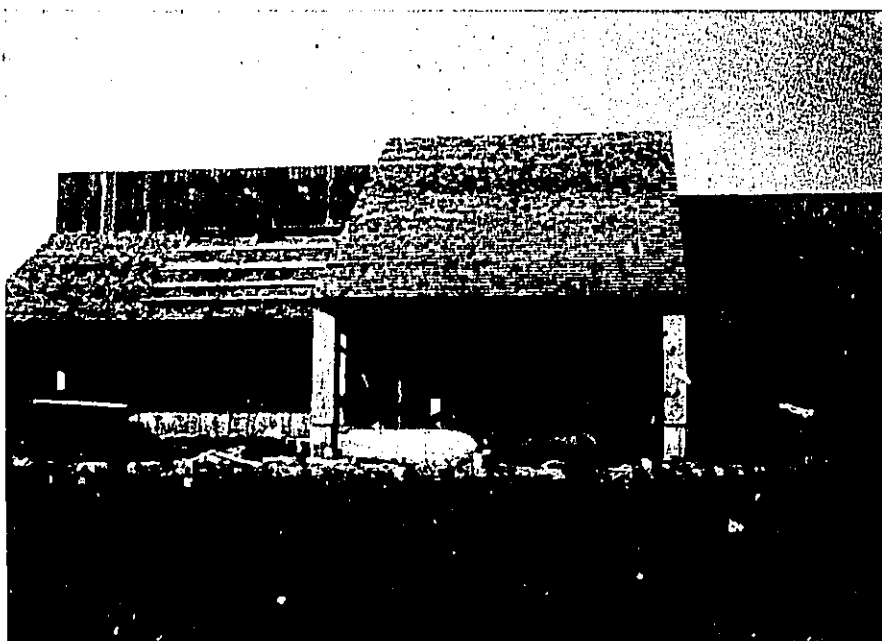
Several washouts in Moist Soil Unit dikes were repaired.

A small section of willow in Moist Soil Unit #5 was mowed, another section was sprayed with Weedone 170 and another section was mowed and then sprayed with Weedone 170 to determine which was the most effective in controlling willow on MSU's.

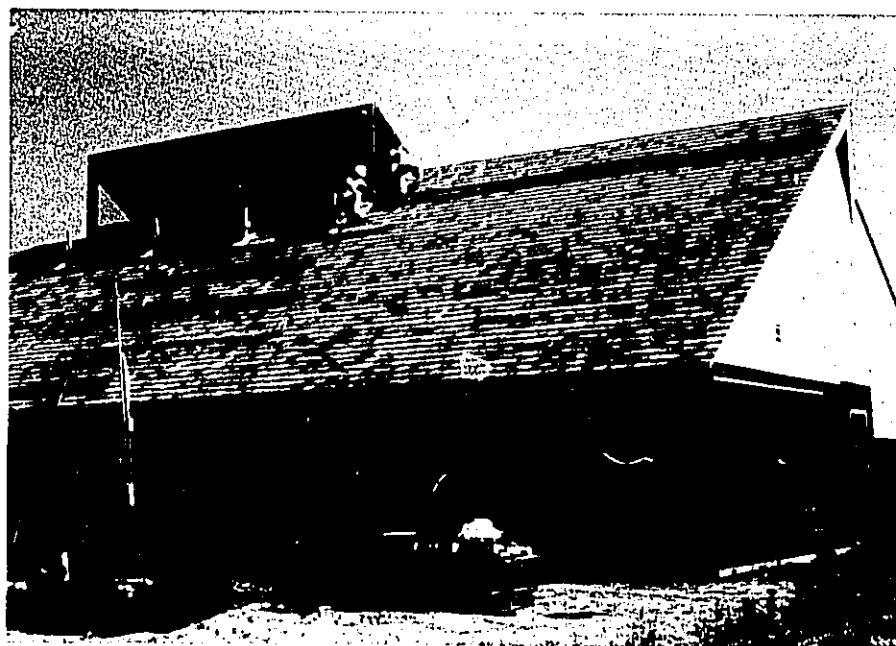
MSU #3 was control burned to control cocklebur and Schoolhouse Lake was burned to clear off duff from previous years vegetation growth.

C. Wildfire

Nothing to report.



Front view of the new office/visitor center as it is being constructed



Construction of the office/visitor center showing the back side



Maintenanceman Simon and tractor operator Mance putting up one of the new Calhoun information signs

III. Habitat Management

A. Cropland

Calhoun: Nine cooperators farmed 214 acres of corn and 409 acres of soybeans. A breakdown of cropping acreages is found in Table I. Crop production was reduced considerably because of drought conditions but moisture was always received just before the crops burned up completely.

It was determined that there was an excess to wildlife needs of crops grown on General Plan Lands (Corps owned). These crops (14.4 acres of corn and 40.3 acres of soybeans) were harvested by the cooperator, sold and the receipts were deposited in Special Account # 5092. According to the Corps management agreement funds generated by selling crops surplus to wildlife needs can be spent on improvements or repairs to the land or equipment used thereon.

The following soil and habitat manipulation practices were conducted by the cooperators to compensate for wildlife benefits lost through the production of soybeans: (1) sow 123 acres of clover as goose browse and a soil builder, (2) aerially seed 31.7 acres of wheat into standing soybeans for goose browse, (3) sow 50 acres of wheat to be used as goose browse and a nurse crop for clover, (4) disk and sow 43.8 acres of millet, (5) sow 22 acres to food patch mix, (6) sow 12 acres of sunflowers, (7) sow 7 acres of grain sorghum and (8) sow 5 acres of hairy vetch and wheat.

Draught conditions resulted in a severe reduction of wildlife food crops. Most clover died soon after it came up. The millet and food patch mix didn't germinate and come up until late in the growing season and therefore didn't have time to mature fully. Wheat came up but did not receive enough moisture to put down a good root system, so it was pulled up when geese browsed on it.

Cooperative farmers were requested to reduce the use of nitrogen fertilizer by 20% and the amount of fuel used in the cultivation of fields by 15%.

Approved herbicides and insecticides were used at recommended rates as needed.

B. Grasslands

The 7 acre orchard grass landing strip was fertilized by cooperative farmer Toppmeyer.

Table I.

Calhoun

Cooperator	Corn	Soybeans	Wheat	Cooperator's Share	Unharvested	Harvested	Refuge Share
							MSU Land Improvements and Wildlife Food
Bonner	4.5	---	---	3.37	---	1.13	
Bonner	---	12.5	---	9.38	---	3.12	
Brinkman	24	---	---	18	---	6	
Fuhler	---	245.7	---	225.7	---	20	
Fuhler	95.3	---	---	32.0	63.3	---	
Fuhler	---	---	---	---	---	---	58 acres of clover sown in 1979 as browse and soil builder.
Fuhler	---	---	245.7	10	---	---	Aerially seeded into soybeans as browse
Fuhler	---	---	40	---	---	---	Will be sown to clover in March 1981 Sow 8 acres of millet sow 22 acres of Food patch mix 5 acres hairy vetch and wheat 7 acres of grain sorghum
W. Hagen	13	---	---	13	---	---	
Hillen	16	---	---	12	---	4	
Hillen	---	18	---	13.5	---	4.5	
Kronable	10	---	---	7.5	---	2.5	
Schulze	---	36	36	29.3	---	6.7	36 acres aerially seeded to wheat
Toppmeyer	---	110	110	104	---	6	110 acres aerially seeded to wheat

Table 1. Continued

Calhoun Continued

Cooperator	Corn	Soybeans	Wheat	Cooperator's Share	Unharvested	Harvested	Refuge Share
							MSU Land Improvements and Wildlife Food
Toppmeyer	36	---	---	9.3	26.7	---	
Toppmeyer	---	---	---	---	---	---	12 acres Sunflowers 35.8 acres in MSU were sown to Millet
Toppmeyer	---	---	---	---	---	---	15 acres of Clover sown in 1980
oppmeyer	---	---	10	---	10	---	will be sown to clover in March 1981
Kinder	3	---	---	2.25	---	.75	
Total	201.8	422.2	441.7	489.3	100	54.7	

C. Wetlands

MSU #1 (53.2 acres) The frequency of non wildlife food plants (Marsh Smartweed and Cocklebur) was decreased and the frequency of valuable waterfowl food plants (Pennsylvania Smartweed, Wild Millet and Nutgrass) increased. This change in composition probably resulted in not having flooding conditions during the spring.

MSU #2 (6.5 acres) The most abundant vegetation was Japanese Millet the result of 1979 management practices.

MSU #3 (35.8 acres) was control burned in May and then disced up and sowed to Japanese Millet by Cooperative farmer Toppmeyer. Due to a lack of moisture the millet did not come up until late in the growing season and did not have time to mature properly.

MSU #4 (8 acres) was plowed in the fall of 1979 to control cocklebur and willow. The most abundant vegetation was wild millet, Pennsylvania Smartweed, Prickly Sida and Nutgrass. Cocklebur was much less abundant than in 1979.

MSU #5 (24.7 acres) In an effort to control willows on this unit three acres were mowed, three acres were sprayed with Weedone 170 and three acres were mowed and then sprayed with Weedone 170. With the help of dry weather the willows were killed on all three areas but the refuge staff will continue to watch them in the future to determine the future effects of these practices.

Schoolhouse Lake was control burned to get rid of the buildup of dead grass so new growth can come up and to control brush around the edge.

Flooding of the MSU's was started in October, but difficulty was encountered at times because of low river levels and the silting in of the water control ditch.

D. Forestlands

Nothing to report.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Nothing to report.

G. Easements for Waterfowl Management

Nothing to report.

IV. Wildlife

A. Endangered and/or Threatened Species

Thirty-three bald eagles were observed on January 29. Total bald eagle use for 1980 amounted to 2,550 use days.

Two ospreys were observed on September 25.

B. Migratory Birds

1. Total duck use days for 1980 was 2,915,815 an increase of 19% over the 1979 duck use. Mallards made up 60% of this population. A peak of 35,130 was reached in November.

Duck production was 70 mallards, 30 blue-winged teal and 530 wood ducks.

Goose use amounted to 851,310 blue/snow goose use days and 184,225 Canada goose use days. This goose use was higher despite the fact that the peak population remained the same as in previous years. This resulted from a mild winter with little snow cover and waterfowl could keep an open water hole in Swan Lake.

Coot use was down with only 383,820 use days and a peak of only 12,000 in November.

2. Marsh and Water Birds

Great blue herons which were the most numerous marsh and water birds found on the area were found just about the year round. Great egret, green heron, little blue heron, double-crested cormorant, and horned grebe were found in lesser numbers. One white pelican stopped and stayed on Swan Lake for about a month in September and October.

3. Shorebirds, Gulls, Terns and Allied Species

The "Volcano" area of Swan Lake remains the most popular area for birders looking for birds in this group although it is becoming somewhat less attractive because it is growing up with willows.

Twenty-two species of birds in this classification were observed on the area.



Group of several thousand blue geese feeding in corn
which has been knocked down by cooperative farmer

Yellowlegs, pectoral sandpiper, semipalmated sandpiper, dowitcher and killdeer were the most abundant species.

The following gulls were common to the area, herring, ring-billed, franklin's and bonaparts. One glaucous gull which is uncommon to the area was observed on January 21. Caspian tern, forster's tern, common tern and black tern were also observed.

4. Raptors

Marsh hawk, sharp-shinned hawk, red-tailed hawk, red shouldered hawk and American Kestrel were all found on the area during certain times of the year. Birders observed a spectacular flight of 1,500 broad-winged hawks migrating over the area on September 25.

One golden eagle was observed several times on the area in October.

Barred and screech owls were often heard calling on the area.

5. Other Migratory Birds

Mourning doves were found in limited numbers. Sunflowers which were planted for doves were utilized by blackbirds before the doves arrived on the area.

C. Mammals and Non-Migratory Birds and Others

1. Game Animals

The white-tailed deer population was up because of the lack of flood conditions. The herd size increased during the hunting season, because there is no hunting on the refuge.

Fox squirrels were abundant on the area although the mast crop seemed to be down.

The muskrat population seems to be static.

No beaver or coyotes were observed during the year although several new beaver dams have been built during the year.

Raccoon and opossum populations remain low.

The cottontail rabbit population has built up during the year because of the light winter and the lack of flooding.

2. Other Mammals

One woodchuck was observed near the building during the year.

3. Resident Birds

Several coveys of quail were observed during the year. This indicates that the quail population has increased.

V. Interpretation and Recreation

A. Information and Interpretation

1. On-Refuge

Nothing to report.

2. Off-Refuge

District Manager Peyton talked to 12 members of the Principia College biology class.

The Refuge System 70 display was set up at the National Hunting and Fishing Day exhibit at Nilo Farms. Approximately 500 people attended the exhibit.

B. Recreation

1. Wildlife Oriented

Fishing both pole and line and net fishing were the most important recreational attractions. This accounted for 1900 visits and 7,270 activity hours. Net fishermen picked up 4,441 lbs of catfish, 73,264 lbs of carp, 51,232 lbs of buffalo, 1,433 lbs of drum and 430 lbs of paddle fish. Net fishing is listed as recreational rather than commercial fishing because just 50 permits are issued and most of these permits went to weekend fishermen who just want to catch a few fish to eat and to give their friends.

Wildlife observation accounted for 3,045 visits and 1,066 activity hours.

Mushrooming activity was higher this year and the success was higher. Most of the mushrooms were found in the bottoms where there was more moisture.

Pecan gathering success was low because mast production was so low.

C. Enforcement

No hunting is permitted on the area.

No citations were issued.



15.

Commercial fishing permit holder picking a carp out of his trammel net



These mushroom hunters hit the jackpot

VI. Other ItemsA. Field Investigations

Nothing to report.

B. Cooperative Programs

Ecological monitoring activities include participation in Wintering Eagle Population Survey, Dove Coo Call Count, Christmas Bird Count and Midwinter Goose Survey.

There was participation in the YACC program with 2 enrollees being on board most of the year.

District Manager Peyton attended the Great III Fish and Wildlife Work Group meetings.

C. Items of Interest

YACC enrollee Nance was given a temporary appointment as a tractor driver.

YACC enrollee Douglas was appointed on a permanent part-time appointment as the refuge clerk-typist.

Maintenanceman Simon and Refuge Manager Peyton took chemical applicators test for the State of Illinois.

Calhoun district was upgraded and District Manager Peyton was promoted to Refuge Manager, CS-11.

Maintenanceman Simon attended heavy equipment operators school at Fort Leonard Wood.

A new 4 X 4 pickup truck and a new 3 ton diesel powered truck were received during the year.

D. Safety

No lost-time accidents occurred during the calendar year. Several safety meetings were held at the Quincy Office. Maintenceman Simon was selected to serve on the Mark Twain safety committee.

FISH and WILDLIFE Service
Division of Wildlife Refuges

PUBLIC USE REPORT

TR Code	Organization Number										Name				Report Period	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
0	1	0	3	3	6	2	2	0	0	0	C	H	L	0	-	-

Page 1 of 3

OUTPUT TYPE	LINE CODE										NO. VISITS	ACTIVITY HOURS	NON-STD TOT. PUS
	18	19	20	21	22	23	24	25	26	27-35			
INTERPRETATION													
Wildlife Trails - Nonmotorized													
Self Guided	0	1	1	0	0	0	0	P	S				
Conducted	0	1	2	1	0	0	0	P	C				
Wildlife Tour Routes - Motorized													
Self Guided	0	2	1	0	0	0	0	P	U				
Conducted	0	2	2	1	0	0	0	P	T				
Interpretive Center	0	3	0	0	0	0	0	P	R				
Visitor Contact Station	0	4	0	0	0	0	0	P	C				
Interpretive Exhibits - Demonstra													
Self Guided	0	5	1	0	0	0	0	P	A				
Conducted	0	5	2	0	0	0	0	P	M				
Other On-Refuge Programs	0	6	0	0	0	0	0	P	P				
ENVIRONMENTAL EDUCATION													
Students	1	0	0	0	0	0	0	P	E				
Teachers	1	1	0	0	0	0	0	P	E				
RECREATION-WILDLIFE CONSUMPTIVE													
Hunting Mig. Birds - Waterfowl													
Ducks	2	0	1	0	0	0	0	P	P				
Geese	2	0	1	0	0	0	0	P	C				
Swans	2	0	1	0	0	0	0	P	R				
General Waterfowl	2	0	1	0	0	0	0	P	W				
Hunting Mig. Birds - Other	2	0	1	0	0	0	0	P	X				
CONTROL TOTALS	9	9	2	0	0	0	0	P	2	00	00	00	

Region 3 Station Mark Twain NWR Date Prepared 01/22/81
(Calhoun Division)
Name George W. Peyton, Refuge Manager Form 3-239a
Rev. 12/75

Fish and Wildlife Service
Division of Wildlife Refuges

PUBLIC USE REPORT

TR Code	Organization Number										Name				Report Period	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	Yr	Mo	
3	0	1	0	3	3	6	2	2	0	0	C	H	L	0	-	

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OUTPUT TYPE	LINE CODE										NO. VISITS	ACTIVITY HOURS	NON-STD TOT. REVIS
	18	19	20	21	22	23	24	25	26	27-35			
RECREATION-WILDLIFE CONSUMPTIVE(c't)													
Hunting Resident Game													
Upland Game Birds	2	1	1	0	0	0	0	P	L				
Big Game				(Species Code)									
Deer - Gun	2	1	2					P	H				
Deer - Bow	2	1	3					P	J				
	2	1	4					P	K				
	2	1	4					P	K				
	2	1	4					P	K				
	2	1	4					P	K				
Small Game	2	1	5	0	0	0	0	P	Z				
Other Game	2	1	6	0	0	0	0	P	U				
Trapping	2	1	7	0	0	0	0	U	G				
Fishing													
Warmwater	2	2	1	0	0	0	0	U	W	1900	7270		
Coldwater	2	2	2	0	0	0	0	U	C				
Saltwater	2	2	3	0	0	0	0	U	S				
Clams, Crabs, Oysters, Frogs	2	2	4	0	0	0	0	U	Y				
Other Consumptive Wildl. Rec.	2	3	0	0	0	0	0	U	M	110	210		
RECREATION-WILDLIFE NON-CONSUMPTIVE													
Camping	3	0	0	0	0	0	0	U	H				
Picnicking	3	1	0	0	0	0	0	U	B				
CONTROL TOTALS	9	9	2	0	0	0	0	R	Z	2010	7480		

Region 3 Station Mark Twain NWR Date Prepared 01/22/81

(Calhoun Division)

Form 3-239b

Name George W. Peyton, Refuge Manager

Rev. 12/75

Fish and Wildlife Service
Division of Wildlife Refuges

PUBLIC USE REPORT

TR Code	Organization Number										Name				Report Period	
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
3	0	1	0	3	3	6	2	2	0	0	C	H	L	0	-	

Page 3 of 3

OUTPUT TYPE	LINE CODE										NO. VISITS	OUTPUT UNITS	NON-STD TOT. PMU
	18	19	20	21	22	23	24	25	26	27-35			
RECREATION-WILDLIFE NON-CONSUMPTIVE												Act.Hr.	
Wildlife/Wildlands Observation													
Foot	3	2	1	0	0	0	0	U	E	50		141	
Land Vehicle	3	2	2	0	0	0	0	U	N	2995		925	
Boat	3	2	3	0	0	0	0	U	L				
Other	3	2	4	0	0	0	0	U	P				
Photography	3	3	0	0	0	0	0	U	T	4		16	
Field Trials	3	4	0	0	0	0	0	U	X				
RECREATION - NON-WILDLIFE													
Camping	4	0	0	0	0	0	0	R	C				
Picnicking	4	1	0	0	0	0	0	R	P				
Swimming	4	2	0	0	0	0	0	R	S				
Boating	4	3	0	0	0	0	0	R	B				
Waterskiing	4	4	0	0	0	0	0	R	W				
Off Road Vehicling	4	5	0	0	0	0	0	R	V				
Other	4	6	0	0	0	0	0	R	M				
TOTAL VISITS TO REFUGE	0	9	0	0	0	0	0	P	V	5059			
FISH & WILDLIFE INFORMATION												Per.Sars	
Public Inquiries	5	0	1	0	0	0	0	F	P			63	
News Releases	5	0	2	0	0	0	0	F	N			6	
Personal Appearances	5	0	3	0	0	0	0	F	A			1	
Professional Services	5	0	4	0	0	0	0	F	S			2	
Exhibits	5	0	5	0	0	0	0	F	E				
CONTROL TOTALS	0	9	2	0	0	0	0	R	Z	6108	1154	00	

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